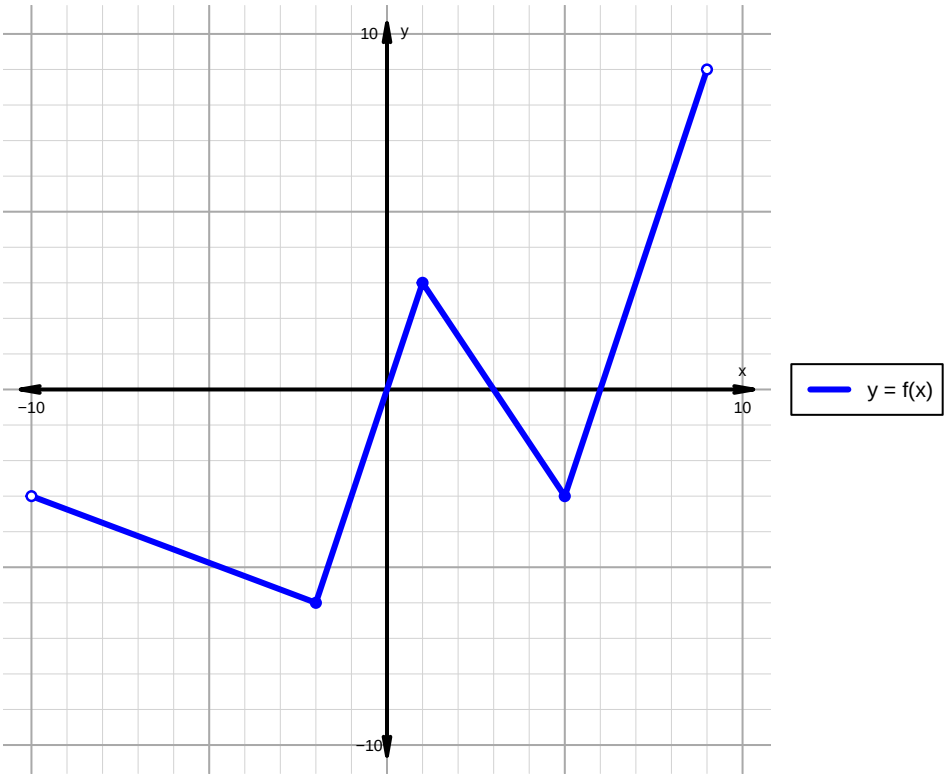
Name: Date:

Intervals, Transformations, and Slope Solution (version 124)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(0, 3) \cup (6, 9)$
Negative	$(-10, 0) \cup (3, 6)$
Increasing	$(-2, 1) \cup (5, 9)$
Decreasing	$(-10, -2) \cup (1, 5)$
Domain	$(-10, 9)$
Range	$(-6, 9)$

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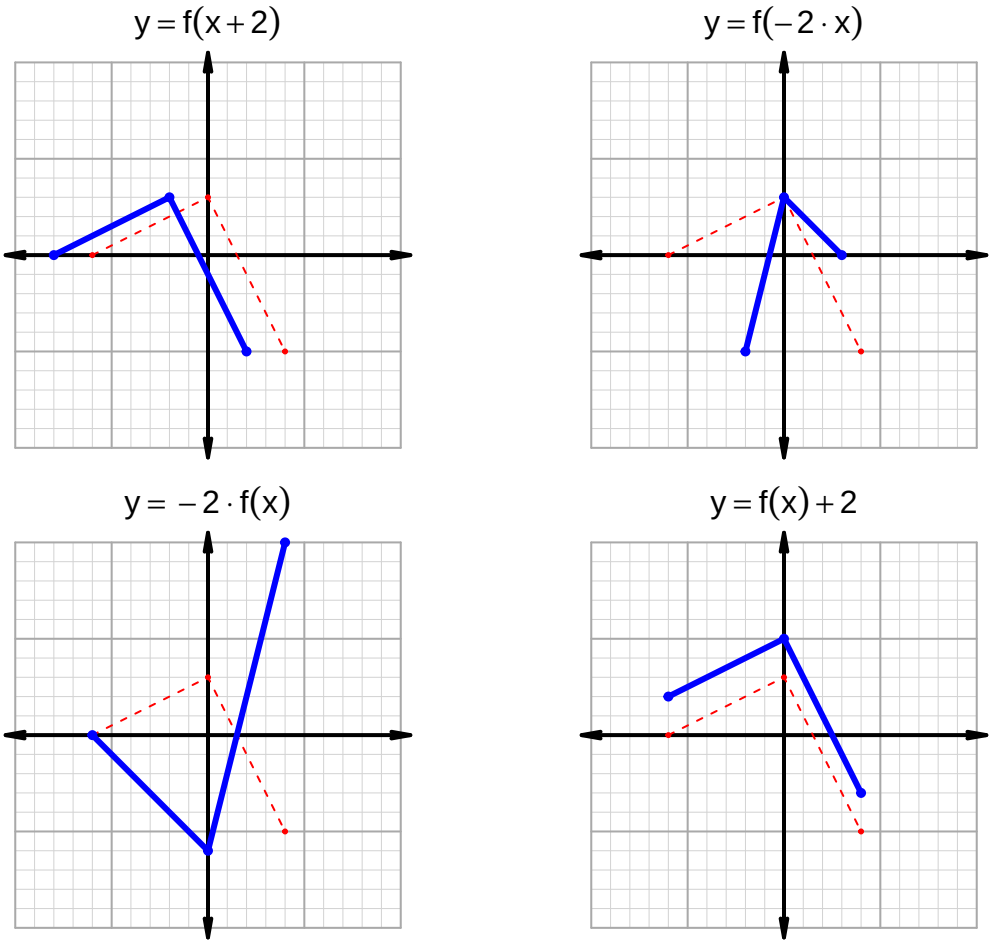
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 36$ and $x_2 = 51$. Express your answer as a reduced fraction.

x	$g(x)$
36	44
44	51
50	36
51	50

$\frac{f(51)-f(36)}{51-36} = \frac{50-44}{51-36} = \frac{6}{15}$

The greatest common factor of 6 and 15 is 3. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{2}{5}$$